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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,139	12/27/2000	Michael D. Pashley	US000386	4745

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EXAMINER

ZEADE, BERTRAND

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,139

Applicant(s)

PASHLEY ET AL.

Examiner

Bertrand Zeade

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al.(US.5,810,463) in view of Schumacher et al (U.S.5,921,670).

3. Kawahara ('463) discloses an illumination device having:

Regarding claim 1, an LED light source (4), a light transmitting rod (1) which permits total internal reflection, and outcoupling material (86) affixed to an outer surface of the rod (1) controls the angular distribution of the light leaving the side of the rod (see figs. 3 and 14).

Regarding claim 2, the light source (4) further including a plurality of LEDS (6).

Regarding claim 3, the plurality of LEDs (12) includes at least a red, green, and blue LEDs which, when mixed, generate white light (col 6, lines 24-33).

Regarding claim 4, the array of red, green, and blue LEDs (12) can be mixed to generate a variety of white light chromaticity.

Regarding claim 5, the array of red, green, and blue LEDs (12) can be mixed to generate dynamic color effects.

Regarding claim 7, the rod (1) is rigid rod.

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Regarding claim 17, the luminary further includes a mirror (9) at an end of the rod away from the light source (4).

Regarding claim 18, the mirror (9) reflects light that travels the entire length of the rod (1).

Regarding claim 19, providing a light emitting rod (31) which permit total internal reflection along its side; and illuminating the light transmitting rod (31) with an LED (12) light source.

Kawahara ('463) does not disclose the width of the outcoupling material of the rod controls the angular distribution of the light leaving the side of the rod.

Schumacher ('670) discloses a lighting system for a passenger cabin especially in an aircraft having:

Regarding claim 1, wherein the width of the outcoupling material or optical lighting film (10) affixed to an outer surface of the rod controls the angular distribution of light leaving the side of the rod (figs. 2-3, 15).

Regarding claim 19, an outcoupling material (10) along its side controlling the width of the outcoupling material to achieve a desired angular distribution of the light leaving the side of the rod (See figs. 2-3, 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made, to utilize the illumination device of Kawahara ('463) with the width of the outcoupling material of the rod that controls the angular distribution of the light leaving the side of the rod disclosed by Schumacher ('670) for the benefit and advantage to provide a lighting system which

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results in a substantially weight reduction compared to the conventional system because the use of electrical cable, ballast device, lighting fixtures and the number of light sources has been minimized; the light means and their light distributing elements have eliminated numerous conventional light sources that were necessary heretofore.

4. Claims 8-11, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al. (U.S. 5,810,463) in view of Schumacher et al (U.S.5,921,670) as applied to claim 2 above, and further in view of Endo et al. (US. 5,123,077).

Regarding claims 8-11 Kawahara ('463) discloses the claimed invention except for a white paint.

Endo ('077) discloses a light source device having:

Regarding claim 8, the outcoupling material is paint (col. 7, lines 10-20).

Regarding claim 9, the paint is a white paint (col. 7, lines 10-20).

Regarding claim 10, the white paint is distributed in such a way as to control angular distribution of light leaving the rod (col. 7, lines 10-20).

Regarding claim 11, the white paint is distributed in such a way as to ensure uniform light distribution along the length of the rod light guide element (4A).

Regarding claim 13, the rod or mold case (1) is a square rod in cross-section.

Regarding claim 16, the outcoupling material includes a combination of white paint and fine dots or points with varying packing density (col. 7, lines 10-20).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made, to utilize the illumination device of Kawahara et al. ('463) in view of Schumacher ('670) with the white paint disclosed by Endo ('077) in order to provide an improved illumination system which is optically efficient more specifically, it is an object for rod or the pipe to provide an illumination including a light output thereof being distributed among a plurality of fiber optics light pipes which terminate in disposable light tips or working instruments.

5. Claims 6, 12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al. (U.S. 5,810,463) in view as applied to claim 2 above, and further in view of in view of McGaffigan (U.S.6,031,958).

Kawahara et al. (U.S. 5,810,463) in view of in view of Schumacher et al (U.S.5,921,670) disclose the claimed invention except for curved edges, flexible rod and an elliptical rod.

McGaffigan ('958) discloses an optical light pipes with laser light appearance having:

Regarding claim 6, the rod is a flexible rod (see fig. 30).

Regarding claim 12, the rod (500A) is an elliptical rod in cross section (see fig. 15B).

Regarding claim 14, the rod is a combination of straight and curved edges in cross-section (see figs. 28A, 28B).

Regarding claim 15, the combination of straight and curved edges vary in configuration along the length of the rod (see figs. 28A-28B, 29-30).

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6. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to utilize the illumination device of Kawahara ('463) in view of in view of Schumacher ('670) with the curved edges, flexible rod and an elliptical rod disclosed by McGaffigan ('958) for benefit and advantage to provide an illumination device which emits rays in a substantially radial direction, because these light rays are emitted perpendicular to a tangent of the curved prismatic surface of the light of the light pipe, and the light emitted rays lie in the plan formed by the incident light ray and the normal to the curved surface of the pipe.

7.

Response to Arguments

8. Applicant's arguments filed 03/04/2003 have been fully considered but they are not persuasive.

Applicants argue that a side-emitting illumination device for uniformly distributing light comprising; an LED light source, a light transmitting rod which permits total internal reflection, and outcoupling material affixed to an outer surface of the rod controls the angular distribution of the light leaving the side of the rod. Applicant added that kawahara fails to recite or suggest the outcoupling material controls the angular distribution of light leaving the side of the rod.

In response to applicant's argument that a side-emitting illumination device for uniformly distributing light comprising; an outcoupling material affixed to an outer surface of the rod controls the angular distribution of the light leaving the side of the rod. Applicant added that kawahara fails to recite or suggest the outcoupling material controls the angular distribution of

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light leaving the side of the rod, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Applicant fails to show how the outer surface of the rod controls the angular distribution.

Applicants further argue that Shumacher ('670) cannot be properly combined with Kawahara (463) because it recites a hollow light guide (8) covered on its inner surface with an optical lighting film (10) which is provided with a light extractor 12 made of scattering film (13).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, referring to (fig. 2-3), optical film (10) is positioned or rolled into the interior of the light guide (8), because instead of using a tubular envelope with an optical lighting film (10) inside, it is possible to use a light guide which is a single hollow component.

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Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bertrand Zeade whose telephone number is (703) 308-6084. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea, can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Examiner: Bertrand Zeade

April 24, 2003.


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800